FOR MYSORE STATE

HELA (195 5) Department.

MS SERIES.

G.O. No. 606 Health.

31

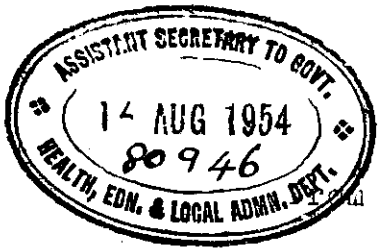
Dated 15th February, 1955

clerk
SR 21.2.55

[Despatch Abstract]

FILARIASIS- South Kanara District- Mangalore Municipality- Special team of the Malaria- Institute of India, Delhi-Report recorded.

No.F.8-54/54-Instt.
Government of India
MINISTRY OF HEALTH



NEW DELHI-2, the 11th August, 1954.

Shri Babu Ram,
Under Secretary to the Government of India

To

(1) The Secretary to the Government of Madras,
Education, Health & Local Administration Department,
MADRAS.

(2) Mangalore Municipality,
MANGALORE.

Subject:- Filariasis in Mangalore - Eradication of.

....

Sir,

With reference to the correspondence ending with this Ministry's endorsement No.F.8-54/54-Instt., dated the 1st July, 1954, I am directed to forward herewith a copy each of the following documents received from the Director, Malaria Institute of India, Delhi, for favour of implementation of the recommendations made therein:-

1. Filariasis Survey Report of Mangalore Municipality.
2. Scheme for the control of filariasis within Mangalore Municipal limits.

Yours faithfully,

Babu Ram

UNDER SECRETARY.

R.TILAK

REPORT ON THE WORK DONE BY A FILARIASIS TEAM OF THE MALARIA INSTITUTE OF INDIA AT MANGALORE DURING MARCH - MAY, 1954.

Object : Survey of filariasis problem, demonstration of control measures in the Mangalore Municipality and training of the municipal staff.

Duration: 28 - 2 - 54 to 23 - 5 - 54.

Staff : Assistant Director (Filaria), two Laboratory Assistants and two Insect Collectors.

Contacts: Hon. Mr. A.B. Shetty, Minister for Health, Madras State; Dr. T.S. Adisubramanian, Director Public Health, Madras; Dr. N. Rajagopalan, Assistant Director, Public Health, Madras; Shri Mahalingam Chettiar, Collector, South Kanara; Shri K.S.N. Adiga, Chairman, Mangalore Municipality; Dr. M.D. Edward, Municipal Health Officer, Mangalore; Commissioner, Municipal Engineer and Councillors Mangalore Municipality. Dr. Kesavaraj, District Medical Officer, South Kanara; Dr. H.S. Nayak, Health Officer-incharge of District Antimalaria Scheme, South Kanara; Dr. Ramachandra Pai, District Health Officer, South Kanara; Office bearers and Members of the South Kanara Branch of the Indian Medical Association and Rotary Club, Mangalore and Elite of the Town.

Topography of the area: Mangalore is the headquarters of the South Kanara District of the Madras State. The town, a terminus of the Southern Railways, is situated on the west coast covering an area of about 18 sq.miles. It is bounded by the wide range of mountains of the western ghats on its north and east, the Ullal river forms its southern limit, while the Gurpur River (wrongly marked as Nethravathi in the map) forming its western boundary separates it from the Arabian Sea. For administrative

purposes the town has been divided into 25 wards (Map enclosed). The terrain, especially in the northern and the eastern wards is undulating and hilly. Extensive plantations of coconuts abound all over the town. Mangalore is one of the highly industrialised towns of South India. It is one of the main centres for manufacturing tiles and hosiery as well as for processing Cashew and coffee.

The population of the town is 1.17 lakhs with a high literacy rate and progressive views. The wards on the western side are comparatively more thickly populated than the others.

Meteorological conditions : The temperature is warm and humidity remains high throughout the year. Rainfall is heavy (120 - 150 inches per year), the main precipitation occurring from June to September. Except during the height of the monsoon, favourable conditions appear to exist almost throughout the year both for the breeding and longevity of the mosquitoes, and consequently transmission of filariasis.

Water Supply : There is no protected water supply and wells are the main sources of domestic water supply for the town. The use of tanks is resorted to in some places, especially after the monsoon. During summer some of the tanks dry up and the supply from the wells also becomes poor. A scheme for bringing protected water supply to the Municipality has been sanctioned and is expected to take shape in the near future.

Previous Surveys : Data regarding filariasis surveys carried out by the Madras Public Health Department during the years 1950 to 1953 are available and have been summarised in Table I. The disease rate among the community during these years ranged between 2.2 to

4.7 per cent while the microfilaria rate varied from 3.8 to 9.9 per cent.

Present Work. : A detailed filariasis survey was carried out of the entire Municipality which consisted of the following investigations: -

i) Blood Survey:- Random representative samples of the population, including all age-groups and both sexes, were collected at night between 9.30 p.m. and 1 a.m. Approximately 20 cmm of blood was obtained on a clean glass slide from a pricked finger from each person and made into a thick smear. The smear was marked with the same number as appearing in the register containing details regarding the volunteer, viz. name, parent's name, age, sex and any signs or symptoms of filariasis. The slides were examined on the following day, and species and counts of microfilariae recorded.

An analysis of the results of the present survey is presented in Table II. A summary of the findings are recorded below.

No. of persons examined ..	7402
No. of persons with disease ..	704
No. of persons with microfilariae.	1112
No. of persons with disease who showed microfilariae in blood.	25
Infection rate	15.0 %
Disease rate	9.5 %
Endemicity rate	24.2 %
Average infestation per 20 c.mm of blood.	47.5
Youngest age at which disease manifestations were noted. ..	5 years
Youngest age at which microfilariae were noted.	2 years

The disease manifestations consisted mainly of swellings of the extremities - chiefly lower - a few cases of filarial scrotum and one case of chyluria. The species of microfilariae prevalent was W.bancrofti only.

Entomological Survey. : The following species of adult mosquitoes were collected during the period : -

C.fatigans
C.sitiens
C.(Ficalbia) minima
C.(lophoceratomyia) Sp.
Armegeres obturbans
Aedes aegypti
A.barbirostris
A.jamesi
A.subpictus and
A.vagus.

The resting places searched included human dwellings and cattle sheds as also a few mixed dwellings and outdoor shelters. Mosquito-collections were made from all wards of the Municipality.

The specimens were dissected on the same day they were collected. Developmental stages of microfilariae were found only in C.fatigans. Details of the species dissected and the findings are presented in Table III.

Breeding Places of C.fatigans : There is no planned drainage system in the town. Its absence has inevitably led to the formation of numerous collections of sullage and other waste water forming sanctuaries for mosquito breeding. The waste water from houses in most cases stays neglected as collections close to the houses either in a cess pit - mostly kutcha - or led to a water a coconut palm in the neighbourhood. A few open drains that exist are either kutcha or badly constructed and poorly maintained, forming a chain of small pools along their course.

There are a few large storm water drains - kutcha with ragged edges over a greater part of their length. In some places, especially in the coastal belt, the street drains empty into these, and the water discharged is often too small in quantity and remains stagnating. These storm water drains end in the Gurpur river the water from which heads up into them during high tide

and the ebbing river leaves behind innumerable pools in their bed, where profuse breeding occurs. Apart from these, there are a number of ponds, tanks and disused wells. Some of the ponds are used for irrigation purposes for the fields and coconut groves, while a number of tanks mainly attached to temples and mosques are sources of heavy mosquito breeding. Dense growth of Pistia stratiotes was present in many of these stagnant water collections but no breeding of Mansonioides sp. could be detected.

The groups of hillocks in the northern and western parts of the town not only make proper drainage difficult but with the innumerable depressions present form potentially extensive breeding places especially after the rains.

ii) Demonstration of control: The methods of control adopted consisted of - (a) a single course of mass therapy with Hetrazan (b) recurrent anti-larval measures against C.fatigans.

Ward No.8 (Kudroli) on the coastal belt of the Municipality was selected for the demonstration project. This area has a mixed population of Mohammedans and Hindus. The disease rate among the community was 7.5 per cent and the infection rate 19.3 per cent. A population of about 5000 persons residing in this ward was enumerated for drug administration. For this purpose the area was divided into 9 sub-divisions and each of these was allotted to one Ward Sanitary Inspector. The inspector went from house to house in this sector and prepared a detailed list of the inmates recording their name, age and sex, as also, the door number of the house.

Drug distribution was commenced on the 26th of April, 1954. The dosage schedule adopted was

a single daily dose for five days of 200 mg per adult and proportionately smaller doses for younger age groups. Children below 2 years and pregnant women were excluded. For drug distribution about 200 persons were taken up at a time by one Inspector which he was able to visit conveniently daily; the population entrusted to each Inspector was thus covered in 2 to 3 sittings. The Inspector was helped by one Field Assistant and a Mistri. The services of a Lady Doctor and Lady Health Assistants were available and were found most helpful especially while visiting the muslim houses where the purdah system is in vogue.

As the majority of the population in this ward consisted of factory workers who were usually away from their homes during the day, the drug distribution had to be carried out in the mornings between 6 and 10 a.m. and in the evenings between 6 and 9 p.m. Further, it happened to be the month of Ramzan and it was essential to visit the houses after sunset.

The distribution was personally supervised throughout the period by the Assistant Director (Filaria). The presence of the Municipal Chairman Health Officer, Commissioner and the Councillors proved most helpful in securing full co-operation of the people.

A total population of 3831 persons received the treatment during the period. A detailed analysis of the age groups of the persons treated is presented in Table IV.

A week after completion of the mass therapy, a follow-up blood survey was carried out in the community. A significant reduction in the infection rate was noticed in that, only 21 persons (3.5%)

were positive out of 602 persons examined as compared with 19.3 per cent before the treatment (Table V). The average infestation among the positive persons before the treatment was 36.2 (max.241 and min.1) while it was only 2.5 (max.4) microfilariae per 20 c.mm when examined a week following completion of therapy.

(b) Larval control measures:

(i) The measures already in force under the Municipality were intensified under strict supervision. Work was particularly difficult in this area as some of the main storm water drains pass through this ward before they discharge into the Gurpur river. Similarly, difficulty was experienced in the maintenance of such drains as well due to paucity of staff. The Kudroli drain which collects the sullage water from a number of major municipal drains like the Pentlandpet drain, the drain at the junction of the car street and Karbala road, as also, the drain at the junction of the Gokarnath temple road and Karbala road particularly were difficult to tackle. Though the street drains in this ward were cleaned and clogged connections from domestic drains were opened up, yet the flow was very sluggish due to poor gradient. The Municipal engineer, the Commissioner and the Health Officer were taken round these areas and the various breeding places in this ward, as well as, in the other parts of the Municipality were shown to them. A scheme for improving the drainage in general and particularly in the coastal belt of Mangalore is being drawn up by the Health Officer and Engineer for the consideration of the Municipal Council.

ii) In addition, Gammexane wettable powder was used for larvicidal purposes. The domestic cess-

pools and other collections of water in the area were treated at weekly intervals. For a proper check up, the mistries carried diaries in which the signatures of a responsible member of the houses was taken after the larvicide had been applied. Further, complaint books were kept in each locality for the residents to bring out any default of the squad or of mosquito nuisance to the notice of the inspecting staff.

c) Training: The local staff were trained during the period by means of lectures and demonstrations both in the field and the laboratory, regarding the different aspects of filariology, chiefly, entomology, parasitology, survey and control. The staff trained consisted of -

Entomological Assistant	..	1
Sanitary Inspectors	..	2
Laboratory Assistant	..	1
Field Assistants	..	4

In addition there were 40 Sanitary Mazdoors who were trained in the methods of applying larvicide as also of handling and maintaining the equipment.

d) Propaganda and Publicity: The elite of the town, the District Collector, the Chairman, Municipal Officers, Councillors and the leading local medical practitions were met individually and at meetings arranged by the Municipal Council, the South Kanara Branch of the Indian Medical Association and the Rotary Club. During these meetings, the epidemiology of filariasis with special reference to the problem in Mangalore Municipality were explained, as also, the methods of control and how the citizens could help in controlling the disease. Appeals for co-operation during the night surveys and mass therapy were made both during these meetings as well as by distribution of handbills (in English and the local language) and by propaganda slides in the local cinemas. A film on the control

of filariasis in Tahiti received from Messrs. Lederle Laboratories (India) Ltd., was shown at some of these meetings and arrangements were made to show them in public places in the different wards for educating the public.

Future Work. : Extension of control measures to other wards: For effectively controlling filariasis in the town the steps taken in the demonstration areas must be extended to cover the entire municipality.

The tablets of filaricide left over from the stock of 1 lakh tablets purchased is to be distributed in the wards adjoining the demonstration area. The necessary data are being collected and the local staff will be commencing the distribution soon. Out of Rs. 10,000/- sanctioned by the Municipality for the purchase of the drug, a sum of Rs. 1600/- has been left over and this can be utilized to get some more supplies of the drug. Drug distribution will probably have to come to temporary standstill when these supplies are exhausted and await sanction of further amounts for purchasing more drug.

A comprehensive scheme is being submitted for the control of filariasis in the Municipality of Mangalore.

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TABLE - I

FILARIASIS SURVEYS OF MANGALORE MUNICIPALITY

(1950 - 1954)

Year	No. of persons examined for disease	No. of persons examined for micro-filariae	Average Disease rate	Ward Mf. rate
1950	2501	1012	3.6	9.9
1951	2503	1179	2.2	7.4
1952	1489	1489	4.4	3.8
1953	1297	1297	4.7	4.6
1954 @	7402	7402	9.5	15.0

@ Conducted by the team from Malaria Institute of India - while the previous years' surveys were carried out by the local staff.

TABLE - II

FILARIASIS SURVEY - MANGALORE MUNICIPALITY (MARCH - APRIL, 1954).

Ward No.	Population	No. of Persons Examined	Percentage of population examined	Disease		Microfilaria		Endemicity rate.	Case with disease and Mf.
				No.	%	No.	%		
1.	7285	370	5.1	25	6.8	61	16.5	23.0	1
2.	4962	323	6.5	22	6.8	55	17.0	23.8	-
3.	9094	603	6.7	32	5.3	67	11.1	16.2	1
4.	3284	253	7.7	12	4.7	32	12.7	17.4	-
5.	5748	237	4.1	40	17.0	25	10.6	27.0	1
6.	3846	267	6.9	23	8.6	36	13.4	22.0	-
7.	4542	296	6.5	25	8.4	53	17.9	26.0	1
8.	7103	441	6.2	32	7.5	85	19.3	23.4	4
9.	2976	326	10.9	53	16.2	64	19.6	35.6	1
10.	2319	267	11.4	31	11.6	45	16.9	27.7	2
11.	4445	300	6.7	39	13.0	62	20.7	32.7	3
12.	2404	134	5.6	21	15.7	22	16.4	31.3	1
13.	4098	314	7.7	34	10.8	52	16.5	26.7	2
14.	2688	260	9.7	20	7.7	24	9.2	16.5	1
15.	5441	273	5.1	15	5.5	29	10.5	16.0	-
16.	2340	207	8.8	15	6.7	14	6.7	13.4	-
17.	6617	428	6.4	55	16.8	69	21.0	37.5	1
18.	2887	278	9.6	19	6.9	36	12.9	19.8	-
19.	3356	232	6.9	21	9.0	30	12.9	21.9	-
20.	3845	270	7.0	30	11.1	44	10.3	26.3	3
21.	3907	288	7.3	41	14.2	47	16.3	27.8	3
22.	6567	225	3.4	27	12.0	39	17.3	29.3	-
23.	4607	269	5.8	28	10.4	40	15.0	24.9	1
24.	5124	219	4.3	20	9.1	39	7.8	26.9	-
25.	7610	322	4.2	24	7.4	42	12.0	19.4	-
	11,095	7,402	6.3	704	9.5	1112	15.0	24.2	26

T A B L E - III

MOSQUITO DISSECTIONS IN MANGALORE (MARCH - MAY, 1954)

Mosquito Dissections Species	Other details	March	April	May
Culex fatigans	No. dissected	1784	1064	539
	No. positive	215	161	95
	Abdomen	85	85	53
	Thorax	166	119	73
	Head	35	7	2
	Infection rate	12.1 %	15.1 %	17.6 %
Other Culicines	No. dissected	68	9	3
	No. positive	nil	nil	nil
Anopheline	No. dissected	155	16	8
	No. positive	nil	nil	nil

TABLE - IV

MASS THERAPY WITH HETRAZAN IN MANGALORE (APRIL - MAY, 1954)

Age Group	Number of persons who took treatment					No. of persons who passed round worms
	5 days	4 days	3 days	2 days	1 day	
2 - 5 years	342	30	21	21	19	70
6 -10 years	450	51	39	38	35	124
11 -20 years	820	60	81	45	61	107
20 years	1210	124	112	123	149	132
All ages	2822	265	253	227	264	433

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T A B L E - V

NIGHT BLOOD SURVEY IN MASS THERAPY AREA

MASS THERAPY CARRIED OUT BETWEEN
26-4-54 and 10-5-54

Period	No. of persons examined.	Number showing Mf.	Mf. rate %	Average Infestation per 20 c.mm.	Mf. count Maximum	per 20 c.mm minimum
Before therapy (March,54)	441	85	19.3	36.2	241	1
After therapy (May, 54)	602	21	3.5	2.5	4	1

A SCHEME FOR CONTROL OF FILARIASIS IN MANGALORE

The facts regarding prevalence of filariasis in Mangalore could be summarised as follows :-

1. Filariasis is highly to moderately endemic in the various wards of Mangalore Municipality with microfilaria ranging from 7.6 per cent to 20.7 per cent.
2. The only species of filaria in Mangalore is W.bancrofti and C.fatigans is the only mosquito that has been found infected with it.
3. The main breeding places of the vector are - a) domestic cess pits, (b) open drains (c) disused wells and (d) numerous tanks and ponds in various parts of the town including temples and mosques.

Anti-filariasis measures adopted at present consist mainly of using larvicides (B.H.C. and Oil). These measures are not being carried out satisfactorily in view of - (a) the extensive distribution of the breeding places, (b) lack of adequate equipment (c) lack of adequate staff, and (d) consequent lack of proper supervision. A revised scheme for the effective control of filariasis in the Municipality would consist of a combination of (a) antiparasitic measure by one course of mass therapy with a filaricide (like Banocide of Messrs. Burroughs Wellcome and Co. Ltd., U.K. or Hetrazan of Messrs. Lederle Laboratories, Pearl River, New York, both having their offices in India at Bombay) and (b) anti-mosquito measures i.e. larval control at weekly intervals supplemented by one round of residual spraying of insecticides in houses.

Anti-parasitic Measure:- The object of this measure is to eliminate or reduce the reservoir of infection or the microfilariae in the human beings. This can be achieved by the administration of any of the two filaricides mentioned above in as far as possible to all the residents in the Municipality. The dosage schedule to be adopted will consist

of a 5 day course at 200 mg (4 tablets each 50 mg) per day for an adult and proportionately smaller doses for younger age groups. As a demonstration project mass therapy has been carried out in a population of about 5,000 persons in Ward 8, one of the highly infected wards of the Municipality. This measure should be extended to cover the remaining area of the town with the least possible delay.

Anti-mosquito Measures:- The present control methods should be intensified and carried out under strict supervision. At present the entire municipality of 25 wards is divided between 2 Malaria Inspectors, with 4 Field Assistants and 40 Mazdoors. The provision of one additional Inspector placing 8 or 9 wards under each will ensure better supervision as the area to be covered will be less. The proposed strength of staff and allocation of duties to them are shown in Appendix-I.

Commensurate with the expansion of field staff, extra equipment like sprayers, spades and shovels etc. are also required to equip the field workers. It is advisable to use a standard set of equipment. Mops and buckets now used for larviciding have to be replaced by pressure sprayers. In addition the following are recommended.

Anti-larval measures: Drainage is the best and permanent answer but requires finance and will take time. Attempts in this direction in the past have resulted in the fact that there is no organised drainage in most parts of the town. Wherever drains are provided they are badly constructed and poorly maintained forming a chain of pools. Domestic collections of water are innumerable and remain stagnating all the year round. The problem is likely to become worse with the introduction of protected water supply which is being contemplated for the town, without a parallel well planned drainage scheme. It is essential to introduce underground drainage side by side with the water supply scheme, as otherwise, with the free flow of water from the taps and with the existing sanctuaries, the mosquito problem will become formidable.

Further there are a number of storm water drains - almost all of them kutcha. In some places, especially in the coastal area, the street drains empty into these storm water drains and the water thus discharged is often too small in quantity to ensure a rapid flow. The storm water drains should be re-aligned with a good gradient and their sides stone-pitched. A cunette should be laid in the bed of the major drains like the Kudroli drain to ensure a rapid flow.

The ingress of river water into these drains during high tide can be effectively prevented by providing automatic tidal gates at the junction of the drains and the river. This will prevent back flow and consequent heading-up.

As already referred to there are a number of tanks attached to the mosques, temples and ponds inside the gardens. Mosquito breeding was detected in most of these water collections with dense growth of vegetation, like water hyacinth and pistia in some of them. It is understood that these tanks are retained just on sentimental and religious grounds. The ideal method of dealing with these would be to fill them up and have childrens' parks constructed on the sites. If, for any reason, this suggestion does not find favour, the tanks should be cleaned and properly maintained with clean stone-paved margins.

The irrigation ponds in the fields and coconut groves in the town appear to be necessary. Regular cleaning up and larviciding would keep down mosquito breeding in them.

A number of disused wells are present in different parts of the town. Since many of these are in the industrial areas of the coastal wards, it might be possible to enlist the cooperation of the management of the various factories to either close down such wells or deal with them to control mosquito breeding. A letter has already been sent to one of the tile manufacturer's associations on these lines. The waste engine oil from the factories can be used for controlling breeding within their premises.

Adult mosquito control: Even with strict supervision and efficient larval control, the breeding places will be so numerous in the post-monsoon period, that it will be practically impossible and uneconomical to treat all the breeding grounds and the adult mosquito population is bound to go up. Reinforcing the operations with indoor residual spraying of houses with D.D.T. at a dose of 100 mgm per square foot or more will help in further reducing the mosquito population and preventing the little transmission that might otherwise occur. The points to consider in adopting this measure are economy commensurate with efficiency. Though a higher dose of D.D.T. could be used with greater advantage, in the first year of the programme, at least a smaller dose of 100 mgm/ sq.ft. of DDT should be applied. The results are to be studied for further elaboration in the succeeding years. As the Hindus are stated to get their houses white washed in October/November for Dipawali and the Christians get their places white-washed before Christmas, the following spraying programme could be used with advantage. The predominantly Hindu wards appear to be in the Western and central parts of the town and the predominantly Christian wards in the eastern and northern parts; the spraying could, with advantage, start in the former in November and the latter treated after mid-December, covering the entire area in about 6 - 8 weeks.

D.D.T. residual spraying may be made available to the citizens on payment. Sale of pyrethrum spray at concession rates will go a long way in encouraging the people to carry out insecticidal spraying in their own premises and thereby reducing the mosquito nuisance.

Supervision:- Strict supervision is the secret of success of the scheme. To ensure this, the supervisory staff should have proper conveyances provided. The entomological Assistant should be provided with a transport daily for 2 - 3 hours in the forenoon to enable him to make a

round. The Sanitary Inspectors should be allowed a Motor Cycle allowance of Rs. 25/- p.m, and the Field Assistants a Cycle allowance of Rs. 5/- p.m.

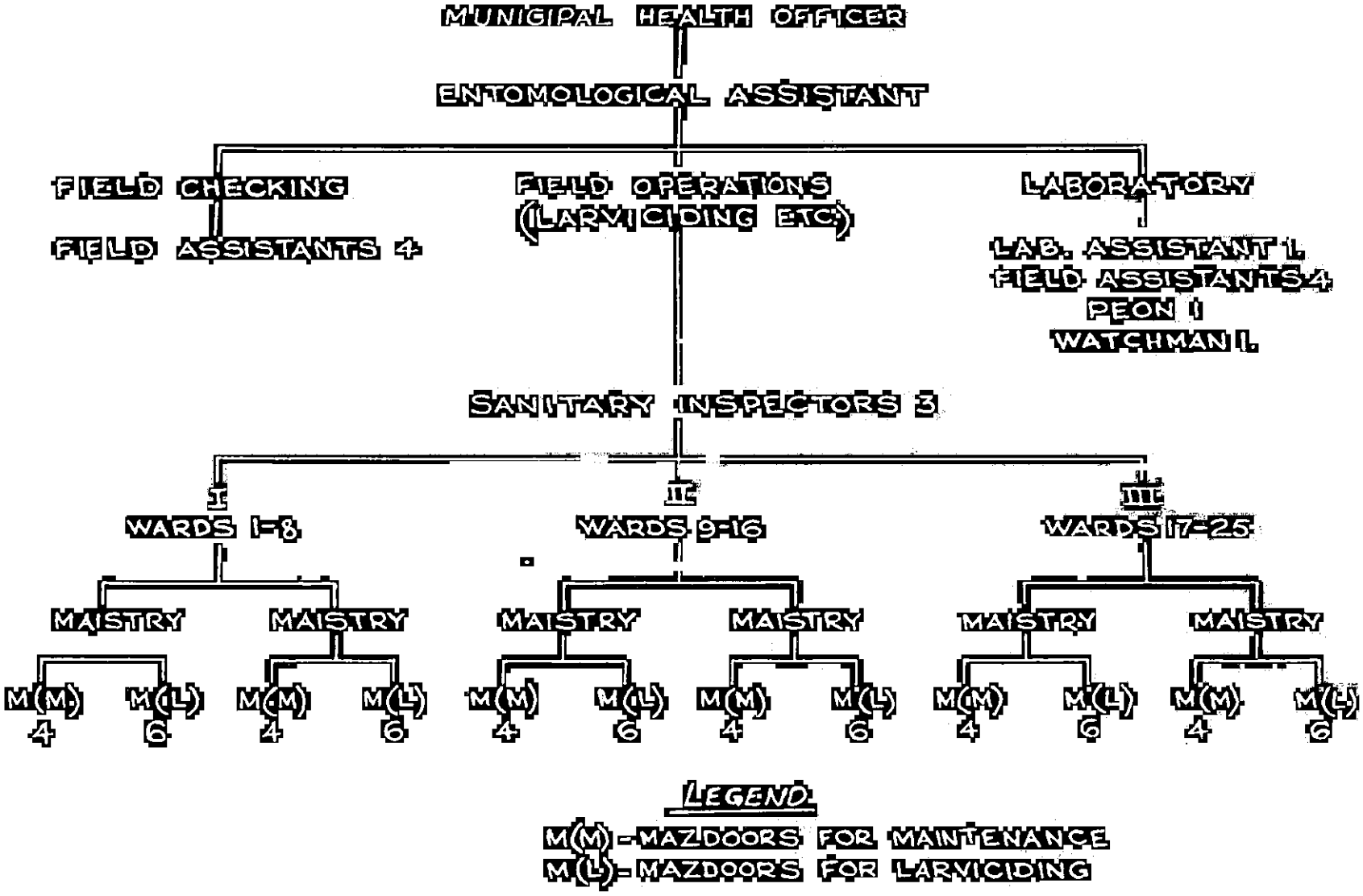
Approximate budget for the revised scheme of Filaria Control is given in Appendix-II.

A P P E N D I X - I

S T A F F

Sl.No.	Designation	Present sanctioned strength	Future strength Recommended	Increase in Strength
1.	Entomological Assistant.	1	1	Nil
2.	Sanitary Inspectors	2	3	1
3.	Laboratory Assistant.	1	1	Nil
4.	Field Assistants	4	8	4
5.	Maistris	1	6	5
6.	Mazdoors	40	60	20
7.	Peon	1	1	Nil
8.	Watchman	Nil	1	1

-.-.-.-.


MUNICIPAL HEALTH OFFICER
ENTOMOLOGICAL ASSISTANT
FIELD CHECKING
FIELD ASSISTANTS 4
FIELD OPERATIONS (LARVICIDING ETC)
LABORATORY
LAB. ASSISTANT 1
FIELD ASSISTANTS 4
PEON 1
WATCHMAN 1
SANITARY INSPECTORS 3
I
WARDS 1-8
II
WARDS 9-16
III
WARDS 17-25
MAISTRY
MAISTRY
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M(L) 6
LEGEND
M(M) - MAZDOORS FOR MAINTENANCE
M(L) - MAZDOORS FOR LARVICIDING

A P P E N D I X - II

Approximate Budget*

A. Non-recurring.

i) Mass therapy.

1. Demonstration (one lakh tablets).	Rs.	10,000
2. Rest of the Municipality (16 lakh tablets at Rs.84/- per 1000)	Rs.	1,34,400
	Rs.	1,44,400

ii) Equipment.

3. Eclipse Pneumatic Sprayers 40 @ Rs. 200/- each.	Rs.	8,000
4. Stirrup Pumps 12, Buckets etc.	Rs.	1,000
5. Spades, Showels etc.	Rs.	250
6. Tools, Spare Parts etc.	Rs.	250
	Rs.	9,500

B. Recurring.

iii)	7. Staff ** Rs. 46,000/-	Rs.	48,500
	8. For spraying insecticide*** Rs. 2850/-		
iv)	Insecticides & Larvicides		
	9. DDT 3 tons (Tech.) Rs. 24,000	Rs.	41,200
	10. BHC (P.520) 3 tons Rs. 15,000		
	11. Malariol 1000 gals. Rs. 1,200		
v)	12. Maintenance of equipments Rs.1500	Rs.	1,500
vi)	13. Stationery & Contingencies Rs.2000	Rs.	2,000
	Total Recurring:-	Rs.	93,200
	Grand Total:-	Rs.	2,47,100

* The Madras Government have agreed to join the National Filaria Control Programme as contained in letter No.7211-P/53 dated 19th December, 1953 of Ministry of Health. If Mangalore Municipality were to be included as part of the Pilot Control Unit, the expenditure under items Nos. 2, 4, 9 and 10 will be met from central aid.

** Pay and allowances according to scales existing in the Madras State.

*** 5 Mates and 25 Mazdoors for 2 months at Rs.60/- p.m. for the Mates and Rs. 45/- p.m. for Mazdoors for two months.

19/23/8 1/2

Memo No: 80946 HW/52-1 HCLA(HW)

Received 23/8/52

Librarian - Mangalore

HMY - Scheme of Central

From the Central Asia Service

of Memo No: F.8.-52/52-Desk

d. 11-8-52

Reference to the

Director of Public Instruction

remarks.

4

20/8/M

To

The DPH (with enclosures)

5 SR

19/8/52 - 15-8-52

CENTRAL DESPATCH BRANCH

Despatched by Regd. Post.

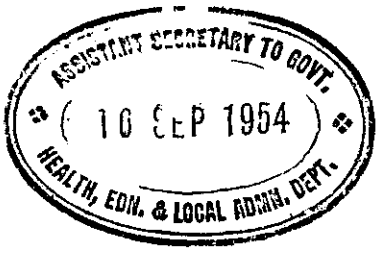
Messenger.

Despatcher's Initials

Date 195

R.No.2156-5-Mal/54 dated
9-9-54

Office of the Director of Public Health, Madras.6



Sub: Filariasis - Mangalore Municipality - Scheme of control.

Ref: Govt.Memo No.80946-H.IV/54-1 Health dated 23-8-54.

Retransmitted.

I invite attention of Government to my letter R.No.2156-4-Mal(2)54 dated 9-8-54 in reply to the Government Memo No.43681-H.IV/54-2 dated 26-5-54 wherein I have suggested that the control unit under the National Filariasis Control programme can also take up Mangalore Municipality. If Mangalore Municipality is selected for demonstration under the National Filariasis Control programme as suggested above the recommendations made by the Malaria Institute of India could be implemented.

92985

R. Bhaskara Rao
14.9.54

For Director of Public Health,
Madras.

To

The Secretary to Government,
Health Education and Local Administration Dept.,
Fort St. George,
Madras.

sn/11-9

Letter No: 80946 HIV/24-2 HEL(HIV)

Dated 30/9/24

To

The Secretary to the Govt. of India
Ministry of Health
New Delhi

Sir,

Sub: Filariasis in Mangalore
Ref: Shri. Babu Ram's letter
No: F. 8-57/24-Instt
d. 11-8-24

I am directed to state that this Govt. require another set of copies of the documents forwarded with the letter cited above for communication to the Comm. Mangalore Municipality. I am accordingly to request that if another set of copies if available may kindly be sent to this Govt. at an early date.

Yours faithfully,

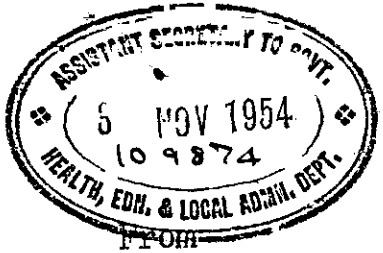
2.10.24 512 28.9.24

Whatever be the final orders in this case copy

2
1

each of the documents and
maps in the current file
have to be communicated to
the Mangalore Municipal council
which is primarily concerned
with the documents and maps.
The documents are voluminous
and even if arrangements
are made here to inspect them
it will be impossible to duplicate
here the maps at pp 31 & 32 of
Annexe the letter.

2 ... 44 ...
28/9/04-5R/28-9-54 ... 28 ...



No. F. 8-54/54-Instt.
Government of India.
Ministry of Health.

NEW DELHI - 2, dated 2nd October, 54.

FROM

Shri Babu Ram,
Under Secretary to the Government of India,

To

The Secretary to the Government of Madras,
Health, Education and Local Administration
Department, Madras.

Sub:- Filariasis in Mangalore.

Sir,

With reference to your letter No. 80946-HIV/54-2, dated the 30th September, 1954, I am directed to say that no spare copy of the documents in question is available in this Ministry. I am, however, to add that a copy of the documents was already sent also to the Mangalore Municipality direct vide this Ministry's letter No. F. 8-54/54-Instt. dated the 11th August, 1954.

Yours faithfully,

Babu Ram

Under Secretary.

S.S.

HELA(HW)

Guidelines have been circulated on National Filaria control Programme and the DPH has been asked for detailed proposals under the programme. This will be put up along with the DPH's proposals under the programme.

H-G-L.A (H)

8.9.56
19.9.56

Re-erection - South Kanara Dt. - Mangalore Municipality - Special leave of the Madras Institute of Public Health, Delhi - Report received.

Read agmt. Go. 4204 Health d. 22-12-54

Read agmt. Go. 12 PH Health d. 13-5-54

From the Govt. of India, Ministry of Health no. F.8-52/54-Instt. d. 11-8-54

Order 606 Health Sub-1 15.2.55

Recorded

2) The attention of the Comm. Mangalore Municipality (is also) and of the D.P.H. is invited to the orders issued in para 5 of Go. 448 Health dated 4-2-55

To

The Comm. Mangalore Mpty. (with a circ (with copy of Go. 448 Health dated 4-2-55 and PSS etc)

The DPH. w.r.t. his no. 2156-5 M(H) dated 9-9-54

(2 Sts)

Ref

Note M(H) may see before issue.

SECRETARY TO GOVERNMENT 12 FEB 1955 HEALTH, EDN. & LOCAL ADMN. DEPTS.

ABSLeRM
11/2